

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PH-2220-PCT</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/010094</b>	International filing date (day/month/year) <b>15.07.2004</b>	Priority date (day/month/year) <b>16.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>G02F1/13357, F21S2/00, F21V8/00, F21Y103/00</b>		
Applicant <b>SHARP KABUSHIKI KAISHA</b>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>1</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																									
<p>4. This report contains indications relating to the following items:</p> <table><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report																								
Name and mailing address of the IPEA/JP	Authorized officer																								
Facsimile No.	Telephone No.																								

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages 1-16 \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. 3-8 \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* 1-2 \_\_\_\_\_ received by this Authority on 09.05.2005
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the drawings:
    - sheets Fig. 1-10 \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-8	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-8	NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1: JP 2002-526808 A (3M Innovative Properties Co.), 20 August 2002; paragraphs 10-11 and 57-68; all drawings & WO 2000/020910 A1; page 3, lines 8-31; page 22, line 5 to page 28, line 17, all drawings & US 6160663 A & EP 1118032 A			
Document 2: WO 2000/057240 A1 (Hitach, Ltd.), 28 September 2000; page 10, lines 12-13; fig. 1a			
Document 3: JP 2003-43222 A (Yuka Denshi Co., Ltd.), 13 February 2003; paragraph 35			
Document 4: JP 20000-30519 A (Enplas Corp.), 28 January 2000; paragraphs 10 and 27-78 and all diagrams			
Document 5: JP 2003-177220 A (Dainippon Printing Co., Ltd.), 27 June 2003; paragraph 25			
Document 6: JP 9-506985 A (Minnesota Mining and Manufacturing Co.), 8 July 1997; page 15, lines 10-22, fig. 9 & WO 1995/017692 A1; page 13, lines 5-18; and fig. 19 & US 2001/8464 A1 & EP 736188 A			
Document 7: JP 10-333131 A (Matsushita Electric Industrial Co., Ltd.), 18 December 1998;			

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	<p>paragraph 8 and fig. 14 &amp; US 6219113 B1; column 8, lines 20-22, and fig. 14</p> <p>Document 8: JP 2002-107513 A (Toppan Printing Co., Ltd.), 10 April 2002; claim 9</p> <p>Document 9: JP 10-206615 A (Nitto Denko Corp.), 7 August 1998; paragraphs 17-19 and fig. 3</p>
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The inventions set forth in claims 1 and 2 do not involve an inventive step in the light of documents 1-3, cited in the international search report, and newly cited documents 8 and 9. Document 1 (paragraphs 10-11) discloses a phase-difference film which has anisotropic coefficients of thermal expansion. In addition document 2 (page 10, lines 12-13) discloses making the coefficients of thermal expansion of adjoining phase difference films substantially equal, and a person skilled in the art could easily apply this in document 1. Moreover, document 3 (paragraph 35) discloses the coefficient of linear thermal expansion as one coefficient of thermal expansion that should be made equal in two optical materials. And documents 8 and 9 disclose a constitution wherein a first optical sheet and second optical sheet are arranged next to one another in a separable state along a line perpendicular to the surface.

The invention set forth in claim 3 does not involve an inventive step in the light of documents 1-3 with document 4, cited in the international search report, and newly cited documents 8 and 9. Document 4 (paragraph 10) discloses a reflective polarizing sheet which has anisotropic coefficients of linear expansion. Document 4 (paragraphs 27-78) also discloses a structure in which an

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aforementioned reflective polarizing sheet is combined with a prism sheet or light-diffusing sheet. Since document 1 (paragraph 11) discloses reflective polarizing sheets which have anisotropic coefficients of thermal expansion, a person skilled in the art could easily apply an aforementioned structure in document 1.

The invention set forth in claim 4 does not involve an inventive step in the light of documents 1-4 and document 5, cited in the international search report, and newly cited documents 8 and 9. Document 5 (paragraph 25) discloses polycarbonate resins, polystyrene resins and nylon-6 resins as materials for light-diffusing sheets.

The inventions set forth in claims 5 and 6 do not involve an inventive step in the light of documents 1-5 and document 6, cited in the international search report, and newly cited documents 8 and 9. Document 6 (page 15, lines 10-22, and fig. 9) discloses an arrangement of a light source - reflective polarizing element - prism element. And a person skilled in the art could easily apply document 4 with this arrangement in document 1.

The inventions set forth in claims 7 and 8 do not involve an inventive step in the light of documents 1-6 and document 7, cited in the international search report, and newly cited documents 8 and 9. As disclosed in document 7 (paragraph 7 and fig. 14), arranging the transmission axis of a polarizing sheet parallel to the direction of the short side of the liquid crystal panel is known. In addition, document 1 (paragraphs 57-68) discloses an arrangement wherein the optical sheet is

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rotated by a set angle.